Appendix E. Corridor Infrastructure

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Introduction

In this appendix we describe the main components of the Corridor Guaymas-Tucson, which starts in the City of Guaymas in Sonora, Mexico and finishes in the City of Tucson, USA. The cities included in the study are Tucson, Nogales in the US and Nogales, Hermosillo and Guaymas in Mexico. There are also some small towns in the Mexican highway that could be affected by the development of the corridor; these are Benjamin Hill, Santa Ana and Imuris. The diagram of the highway portion of the corridor is presented in Figure 1, which shows the flow of the vehicles traveling along the corridor and the main cities and infrastructure encountered in the path.

The main terminals of the corridor include the Port of Guaymas, the Port of Tucson, the Mariposa Port of Entry (POE), a future terminal in Hermosillo (planned by Ferromex) and the military inspection points in Mexico. These facilities can be classified as multimodal terminals that are used to change from one mode of transportation to the other, such as the Port of Guaymas, the Port of Tucson and the future terminal in Hermosillo (See Figure 1 and 2 to multimodal terminals in red). The second type includes facilities that prevent the free flow of vehicles along the corridor, such as the military inspection points on the Mexican side; the Mariposa and DeConcini POE in the American side (See in Figure 1 and 2 the inspection points).

The transportation modes included in the corridor are road transportation, which includes all vehicles that travel through the main highways connecting the cities of Guaymas and Tucson. The diagram in Figure 1 provides information about the main populated places, the tolls and inspection points along the corridor and details about the infrastructure for both Mexican and American highways. The areas covered by the corridor's highway are presented in Figure 3, which provides a scaled map of the corridor region, and the route followed by the highway. In terms of highways we focused on the Mexico 15 Federal Highway, which is the main transportation link between the Port of Guaymas and Nogales (Sonora). We also acknowledge that it is the main interstate highway serving the state of Sonora. On the other side of the border we focused on the I-19 Highway that connects the City of Tucson with Nogales (AZ) (see Figure 3).

The second mode of transportation is the railroad, which uses the private infrastructure of Ferromex in Mexico, and Union Pacific in the US to connect the cities in the corridor. As it is

shown in Figure 2 and 4 the railroad line runs parallel to the highway for most of the corridor, starting in the Port of Guaymas and crossing the cities of Empalme, Hermosillo Nogales and Tucson. The diagram in Figure 2 presents the intermodal terminals, inspection points and the railroad yards included in the corridor. However the Empalme rail yard also serves as an inspection point for the railroad operations. There is also a map describing the areas covered by the railroad in Figure 4, with its corresponding route across the corridor and through the border. We also present on the map, the locations of terminals for the railroad and delimit the study area.

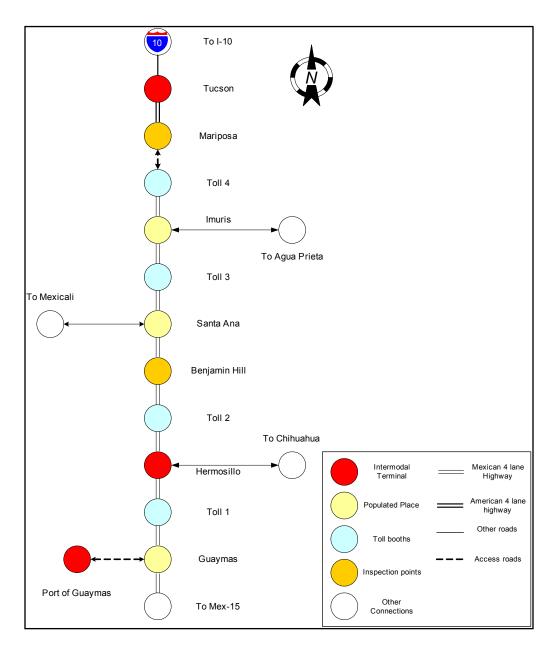


Figure 1- Links and Nodes for the Highway Corridor Source: Own design

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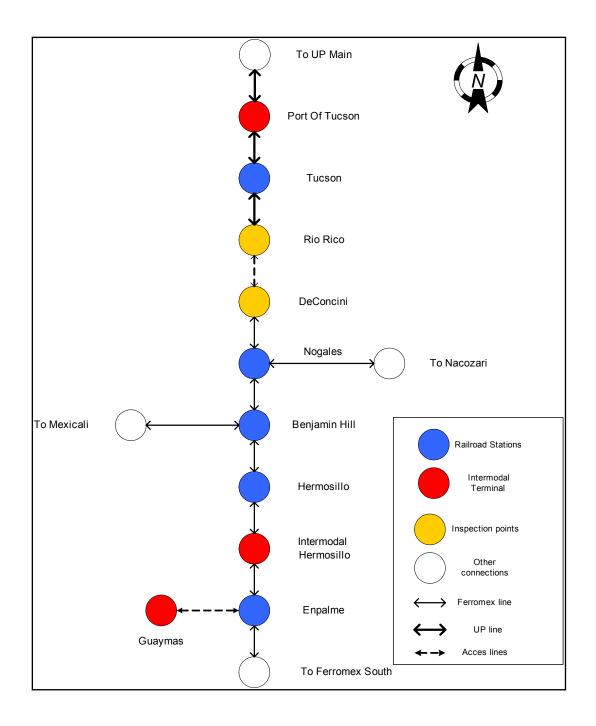


Figure 2 - Links and Nodes for the Railroad Corridor Source: Own design

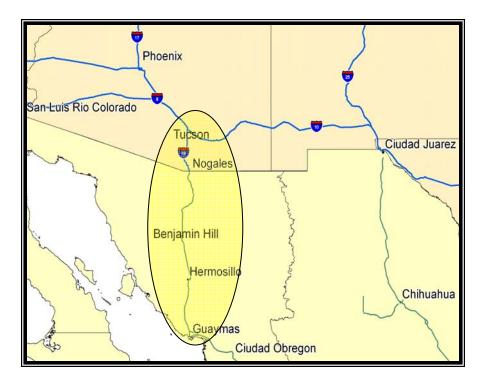


Figure 3 - Highway Infrastructure (Source: Own design)

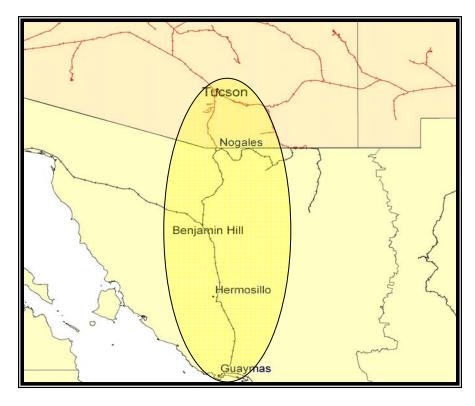


Figure 4 - Railroad Infrastructure (Source: Own design)